

## CLAIMS

1. (Currently amended) A method comprising
  - i) injecting oxygen ( $O_2$ ) or air to a liquid aqueous biocidal mixture containing hydrogen peroxide ( $H_2O_2$ ) at an initial concentration of from 2 to 250 ppm;
  - ii) supplying suspended magnesium oxide to the hydrogen peroxide ~~containing~~ containing mixture ~~at a~~ and adjusting the pH of the mixture to a value of from 7.2 to 9.7, the magnesium oxide concentration within the said mixture ~~being~~ of from 2 ppm to 250 ppm;
  - ~~iii)~~ adjusting the pH of the mixture of (ii) to a value of from 7.2 to 9.7; and
  - ~~iv)~~ iii) irradiating the mixture containing hydrogen peroxide and magnesium oxide with UV light having a wavelength of from 190 to 390 nm;wherein the method is performed at ambient temperature and an enhanced generation of hydroxyl radicals ( $OH^*$ ) is provided, said enhanced generation being characterized by at least a two fold increase in percentage (%) of salycilic acid (SA) conversion as a compared to % conversion of SA conversion as a result of treatment with UV only.
2. (Canceled)
3. (Canceled)
4. (Canceled)
5. (Currently amended) The method of claim 1, wherein the oxygen is injected ~~supplied~~ to the liquid aqueous biocidal mixture to saturation.
6. (Canceled)
7. (Canceled)

8. (Previously presented) The method of claim 1, wherein the initial concentration of hydrogen peroxide in the liquid aqueous biocidal mixture is from 10 ppm to 50 ppm, and the concentration of magnesium oxide in the mixture is from 10 to 50 ppm.

9. (Canceled)

10. (Canceled)

11. (Previously presented) The method of claim 1, wherein the mixture is mixed after supplying the magnesium oxide, the mixing is for a period of time sufficient to generate a desired amount of hydroxyl radicals.

12. (Previously presented) The method of claim 11, wherein the desired amount of hydroxyl radicals is sufficient to achieve a biocidal effect in the mixture.

13. (Previously presented) The method of claim 11, wherein said period of time is from 3 seconds to 5 hours.

14. (Previously presented) The method of claim 13, wherein said period of time is from 30 second to 100 minutes.

15. (Previously presented) The method of claim 11, wherein said period of time is more than 5 hours.

16. (Previously presented) The method of claim 11, wherein the desired amount of hydroxyl radicals generated in the mixture is a predetermined quantity.

17. (Canceled)

18. (Canceled)

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19. (Currently amended) The method of claim 11, further comprising quantification of the desired amount of hydroxyl radicals, the quantification comprising reacting the hydroxyl radicals, if present in the mixture, with salicylic acid.

20. (Previously presented) The method of claim 1, wherein the liquid aqueous biocidal mixture is water selected from the group consisting of sea water and municipal effluent water.